



UNITED STATES PATENT AND TRADEMARK OFFICE

W
UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,442	03/30/2004	Lawrence J. Feroli	EMC04-03(04013)	3381
47653	7590	08/22/2006	EXAMINER	
DAVID E. HUANG, ESQ. BAINWOOD HUANG AND ASSOCIATES LLC 2 CONNECTOR ROAD WESTBOROUGH, MA 01581			WRIGHT, INGRID D	
			ART UNIT	PAPER NUMBER
			2835	

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/812,442	FEROLI ET AL.
	Examiner Ingrid Wright	Art Unit 2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 13 June 2006.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-28 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-28 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 3/30/04 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.
 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date _____.
 5) Notice of Informal Patent Application (PTO-152)
 6) Other: 2 Attachments.

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claim 6,7,14 & 15 is withdrawn in view of the reference(s) to Freeman et al. US 5365658. Rejections based on the cited reference(s) follow.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 18-20 & 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman et al. US 5365658 in view of Amberg et al. US 6435916 B1, further in view of Larabell et al. US 5842030. Note: See attached fig. 1 & 2 of Freeman et al. for elements representing claimed limitations in the instant application.

With respect to claim 1, Freeman et al. teaches a cord assembly for connecting a connector of a building wiring system (see, Abstract of Freeman et al.), the cord assembly having: a cord (see, cord of cable (20)) which includes a first plug (92) configured to connect to a frame (68) and second plug (94) configured to connect to a panel (98) of a building wiring distribution system (see, Abstract of Freeman et al.), and a cable (20) interconnected between the first and second plugs (92,94); and a device () configured to fasten the first plug (92) to the frame (68), the device (74) including a body (see, body of (72)) configured to attach to an installation location of a frame (68) and substantially hold the first plug (92) at the installation location of the frame (68), the body (see, body of (74)) including a first end wall

(see, fig. 3 of Freeman), a second end wall (see, fig. 2 of Freeman et al.), and lateral walls (see, fig. 2 of Freeman et al.) which connect the first end wall and the second end wall together; wherein, when the body (see, body of (74)) substantially holds the first plug (92) at the installation location of the frame (68) and when the body (see, body of (74))) is attached to the installation location of the frame (68), (i) the first end wall (see, fig. 2 of Freeman et al.) is configured to restrain the plug (92,94) in a positive Z-direction relative to the frame, (ii) the second end wall is configured to restrain the first plug (92) in a negative Z-direction relative to the frame (68), the negative Z-direction being opposite to the positive Z-direction along a Z-axis, and (iii) the lateral walls are configured to register the first plug (92) relative to the frame in an X-Y plane which is perpendicular to the Z-axis, but is silent as to specifically a power cord assembly and a data storage system.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a power cord assembly in the invention of Freeman et al., in order to provide a common electrical means of connecting two connector plugs.

Additionally, Amberg et al. teaches a power cord (not shown in figs. of Amberg et al.), which includes a first plug (711) connected to a PC board (900) and a second plug (not shown), for supplying power to operating circuitry of the PC board (900) (see Abstract of Amberg et al.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a power cord assembly of Amberg et al. in the invention of Freeman et al., in order to provide an alternate equivalent electrical means of connecting two connector plugs.

Larabell et al. teaches a data storage system (10) comprising a housing (12) having a frame (see, frame of housing (12)), operating circuitry (124) and a power supply subsystem (16) configured to power the operating circuitry (124), the power subsystem (16) including a power supply (122) configured to be supported by the frame (see, frame of housing (12)), but is silent as to a power cord assembly.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize any electrical system such as the data storage system of Larabell et al., in the invention of Freeman et al. as modified by Amberg et al., in order to provide a conventional means of connecting electrical connectors to an electrical system.

Regarding the method claim 18, the method steps recited in the claims are inherently necessitated by the device structure as taught by Freeman et al., Amberg et al. & Larabell et al. Freeman et al., Amberg et al. & Larabell et al. disclosed installing a power supplied by a wall socket (see, col. 3, lines 15-17 of Amberg et al.) into a data storage system (10), a device (74) fastened to a plug (711) of a power cord (not shown); attaching the device (74) to an installation location of a frame (68) of the data storage system (10); a power supply (see, col. 3, lines 15-17 of Amberg et al.) inserted into the frame (68) of the data storage system (10) until the power supply (see, col. 3, lines 15-17 of Amberg et al.) mates with the plug (711) of the power cord (not shown), the device (74) having a first end wall, and lateral walls which connect the first end wall and the second end wall together; wherein, when the device (74) substantially holds the plug (92) at the installation location of the frame (68) and when the device (74) is attached to the installation location of the fame (68), (i) the first end wall is configured to restrain the plug (92) in a positive Z-direction relative to the frame (68), (ii) the second end wall is configured to restrain the first plug (92) in a negative Z-direction relative to the frame (68), the negative Z-direction being opposite to

the positive Z-direction along a Z-axis, and (iii) the lateral walls are configured to register the first plug (92) relative to the frame (68) in an X-Y plane which is perpendicular to the Z-axis.

With respect to claims 19 & 26 respectfully, Freeman et al., as modified by Amberg et al. & Larabell et al. teaches a body (see, body of (74), but is silent as to a first and second member.

Freeman et al., as modified by Amberg et al. & Larabell et al., in another embodiment, teaches wherein body (see, body of (16)) includes: a first and second member (see, fig. 1 of Freeman et al.), having walls and configured to allow the plug (14) to be in a interior location when in an open position relative to each other and encapsulate the plug (14); wherein 90 degree angles and other angle portions are defined, for preventing the plug (14) from being inserted into the body (see, body of (16)) correctly, but is silent as to specifically the second member defining angles greater than 90 degrees.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize angles greater than 90 degrees or any other angles in the configuration of Freeman et al., as modified by Amberg et al. & Larabell et al., in order to provide an alternate equivalent means of preventing the plug of Freeman et al., as modified by Amberg et al. & Larabell et al., from being inserted incorrectly.

With respect to claims 20 & 27 respectively, Freeman et al. as modified by Amberg et al. & Larabell et al., teaches the body (see, body of (74)) and tabs (78), which also deflect toward the lateral walls and toward each other and subsequently bend back away from the lateral walls and away from each other when the body inserts through a hole (72A) defined by the frame (68) to lock the body to the frame (68) at the installation location.

With respect to claim 28 respectively, Freeman et al., as modified by Amberg et al. & Larabell et al., teaches wherein the first plug (92) of the cord (90) and the body (see, body of (74)) of the device (74) are separate components, the body (see, body of (74)) of the device (74) being configured to capture the first plug (92) in an interference fit manner and present a physical connection interface of the first plug (92) for direct physical mating between the physical connection interface, when the device (74) fastens the first plug (92) to the frame (68) and a power supply (see, col. 3, lines 15-17 of Amberg et al.).

3. Claims 2,3,5-7,9-11,13,15,17 & 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman et al. US 5365658 in view of Amberg et al. US 6435916 B1.

With respect to claim 2, Freeman et al. teaches a cord assembly for connecting a connector to a panel (98) of a building wiring distribution system (see, Abstract of Freeman et al.), the cord assembly comprising: a cord (20) having a first plug (92) configured to connect to the frame (68), a second plug (94) configured to connect to a panel of a wiring distribution system (see, Abstract of Freeman et al.), and a cable (see, cable of cord (20)) interconnected between the first and second plugs (92,94); and a device (74) for fastening the first plug (92) to a frame (68), which is configured to support the connection of the plug (92), the device (74) including a body (seem body of (74)) configured to attach to an installation location of the frame (68) and substantially hold the first plug (92) at the installation location of the frame (68) and disconnects from the plug (92), the body (see, body of (74)) including: a first end wall (see, fig. 2 of Freeman et al.), a second end wall (see, fig. 2 of Freeman et al.), and lateral walls (see, fig. 2 of Freeman et al.) which connect the first end wall and the second end wall together; wherein, when the body (see, body of (74)) substantially holds the first plug (92) at the installation location of the frame (68) and when the body (see, body of (74)) is attached to the installation location of the frame (68), (i) the first end wall is configured to restrain the plug (92) in a positive Z-direction relative to the frame (68), (ii) the

second end wall is configured to restrain the first plug (92) in a negative Z-direction relative to the frame (68), the negative Z-direction being opposite to the positive Z-direction along a Z-axis, and (iii) the lateral walls are configured to register the first plug (92) relative to the frame in an X-Y plane which is perpendicular to the Z-axis, but is silent as to a power cord assembly.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a power cord assembly in the invention of Freeman et al., in order to provide a common electrical means of connecting two connector plugs.

Additionally, Amberg et al. teaches a power cord (not shown in figs. of Amberg et al.), which includes a first plug (711) connected to a PC board (900) and a second plug (not shown), for supplying power to operating circuitry of the PC board (900) (see Abstract of Amberg et al.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a power cord assembly of Amberg et al. in the invention of Freeman et al., in order to provide an alternate equivalent electrical means of connecting two connector plugs.

With respect to claim 10, Freeman et al. teaches a device (74) for fastening a plug (92) of a cord (20) to a frame (68), the device (74) comprising: a body (see, body of (74)) configured to attach to an installation location of the frame (68) and substantially hold the plug (92) at the installation location of the frame (68) and disconnects from the plug (92), the body (see, body of (74)) including: a first end wall, a second end wall, and lateral walls (see, fig. of Freeman et al.), which connect the first end wall and the second end wall together; wherein, when the body (see, body of (74)) substantially holds the plug () at the installation location of the frame (68) and when the body (see, body of (74)) is attached to the installation location of

the frame (68), (i) the first end wall is configured to restrain the plug (92) in a positive Z-direction relative to the frame (68), (ii) the second end wall is configured to restrain the plug (92) in a negative Z-direction relative to the frame, the negative Z-direction being opposite to the positive Z-direction along a Z-axis, and (iii) the lateral walls are configured to register the plug (92) relative to the frame (68) in an X-Y plane which is perpendicular to the Z-axis, but is silent as to a power cord.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a power cord assembly in the invention of Larabell et al. as modified by Freeman et al., in order to provide a common electrical means of connecting two connector plugs.

Additionally Amberg et al. teaches a power cord (not shown in figs. of Amberg et al.) which includes a first plug (711) connected to a PC board (900) and a second plug (not shown), for supplying power to operating circuitry of the PC board (900) (see Abstract of Amberg et al.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a power cord assembly of Amberg et al. in the invention of Freeman et al., in order to provide an alternate equivalent electrical means of connecting two connector plugs.

With respect to claims 3,11 & 22 respectively, in regards to all the limitations of claim 2 and 10 above, Freeman et al. as modified by Amberg et al., teaches the body (see, body of (74)) and tabs (78), which also deflect toward the lateral walls and toward each other and subsequently bend back away from the lateral walls and away from each other when the body inserts through a hole (72A) defined by the frame (68) to lock the body to the frame (68) at the installation location.

With respect to claim 5 & 13, respectively, in regards to all the limitations of claim 2 and 10 above, Freeman et al. as modified by Amberg et al. teaches the body (see, body of (74)), but is silent as to a first and second member.

Freeman et al. as modified by Amberg et al., teaches in another embodiment, a body (see, body of (16)) having a first and a second member (see, fig. 1 of Freeman et al.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the first and second members of Freeman et al. as modified by Amberg et al., over the configuration of the device of (74) of Freeman et al. as modified by Amberg et al., as an alternate equivalent means of housing a connector plug for an opening or aperture of a frame.

With respect to claim 6, Freeman et al. as modified by Amberg et al. teaches first and second members (see, fig. 1 of Freeman et al.), which define 90 degree angles and other angle portions for preventing a plug (14) from being inserted into the body (see, body of (16)) correctly, but is silent as to specifically the second member defining 135 degree angles.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize 135 degree angles or any other angles in the configuration of Freeman et al. as modified by Amberg et al., in order to provide an alternate equivalent means of preventing the plug of Freeman et al. as modified by Amberg et al. from being inserted incorrectly.

With respect to claim 7 & 15 respectfully, Freeman et al. as modified by Amberg et al., teaches first and second members (see, fig. 1 of Freeman et al.), which define 90 degree angles and other angle

portions for preventing a plug (14) from being inserted into the body (see, body of (16)) correctly, but is silent as to specifically the second member defining 135 degree angles.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize 135 degree angles or any other angles in the configuration of Freeman et al. as modified by Amberg et al., in order to provide an alternate equivalent means of preventing the plug of Freeman et al. as modified by Amberg et al., from being inserted incorrectly.

With respect to claim 9 & 17 respectively, Freeman et al. as modified by Amberg et al., teaches the first end wall, the second end wall and the lateral walls (see, fig. 2 of Freeman et al.), which form a contiguous, integrated, unitary member.

With respect to claim 23 & 25 respectively, in regards to all the limitations of claims 2 & 10 above, Freeman et al., as modified by Amberg et al., teaches wherein the first plug (92) of the cord (90) and the body (see, body of (74)) of the device (74) are separate components, the body (see, body of (74)) of the device (74) being configured to capture the first plug (92) in an interference fit manner and present a physical connection interface of the first plug (92) for direct physical mating between the physical connection interface, when the device (74) fastens the first plug (92) to the frame (68) and a power supply (see, col. 3, lines 15-17 of Amberg et al.).

With respect to claim 24, in regards to all the limitations of claim 10 above, Freeman et al. as modified by Amberg et al., teaches the body (see, body of (74)) and tabs (78), which also deflect toward the lateral walls and toward each other and subsequently bend back away from the lateral walls and away from each

other when the body inserts through a hole (72A) defined by the frame (68) to lock the body to the frame (68) at the installation location.

4. Claims 8 & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman et al. US 5365658 in view of Amberg et al. US 6435916 B1, further in view of Nguyen et al. US 6411526 B1.

With respect to claim 8 & 16 respectively, in regards to all the limitations of claim 2 & 10 above, Freeman et al. as modified by Amberg et al., teaches the first end wall, the second end wall and the lateral walls (see, fig. 2 of Freeman et al.), but is silent specifically as to being formed of a non-conductive polymer.

Nguyen et al. teaches a connector formed of a non-conductive polymer (see, col. 3, lines 60-67 of Nguyen et al.).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the polymer material as taught by Nguyen et al., in the invention of Freeman et al. as modified by Amberg et al., in order to provide a support material for a connector.

5. Claims 4 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Freeman et al. US 5365658 in view of Amberg et al. US 6435916 B1, further in view of Spruell US 20050161248 A1.

With respect to claim 4 & 12 respectively, in regards to all the limitations of claim 2 & 10 above, Freeman et al. as modified by Amberg et al. teaches the body (see, body of (74)) and the frame (68), a but is silent specifically as to a key.

Spruell teaches a key (see, col. 5, par. 0068 of Spruell) extending from a wall of an electrical cable, for preventing rotation about a Z-axis.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a key as taught by Spruell, in the invention of Freeman et al. as modified by Amberg et al., in order to provide a means of preventing the connector of Freeman et al. as modified by Amberg et al. from being accidentally removed from the frame and to firmly secure the connector of Freeman et al. as modified by Amberg et al. in the panel.

Response to Arguments

6. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

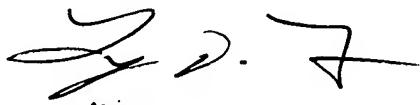
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: 6609916 B2 shows the state of the art regarding connector assemblies.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ingrid Wright whose telephone number is (571)272-8392. The examiner can normally be reached on M-F.

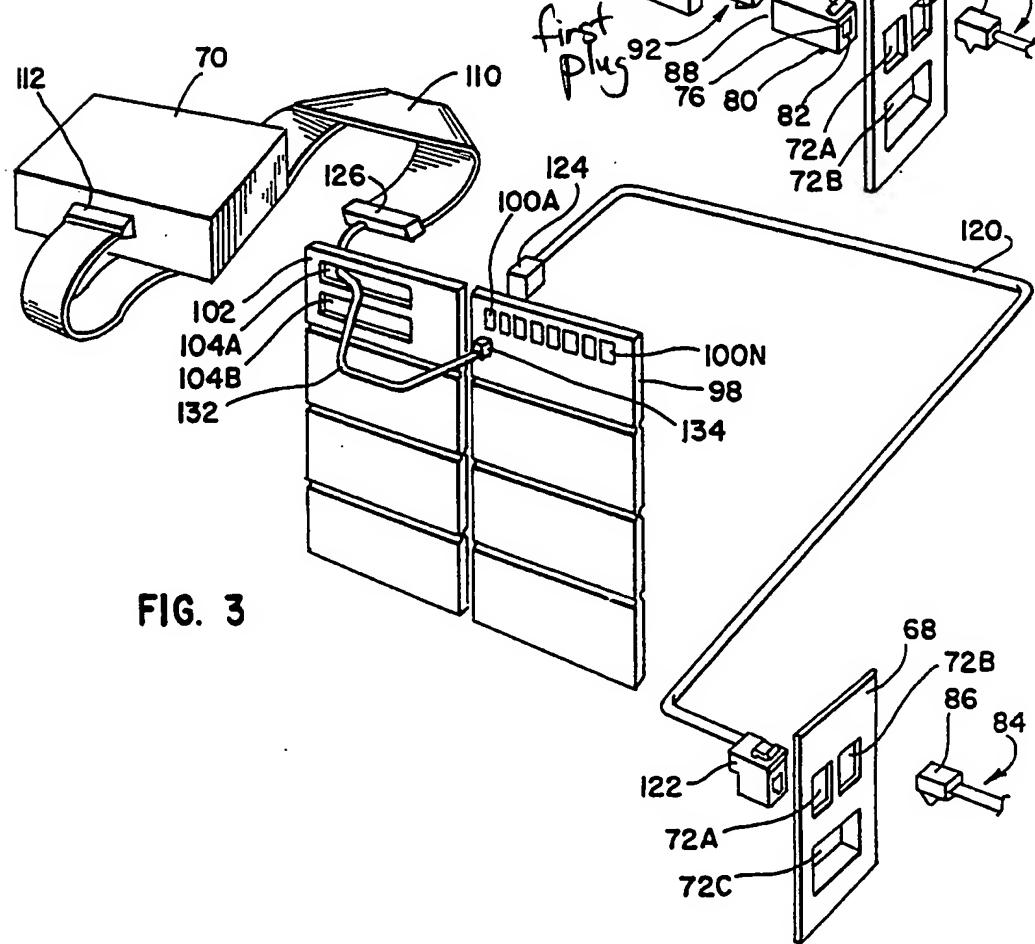
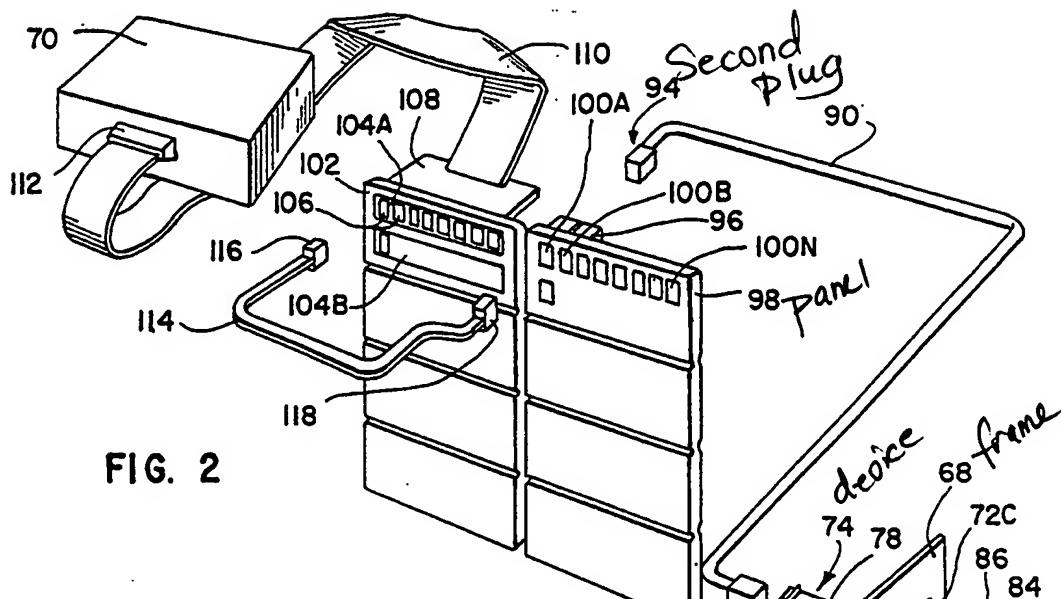
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on (571)272-2800, ext 35. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

IDW



LYNN FEILD
SUPERVISORY PATENT EXAMINER



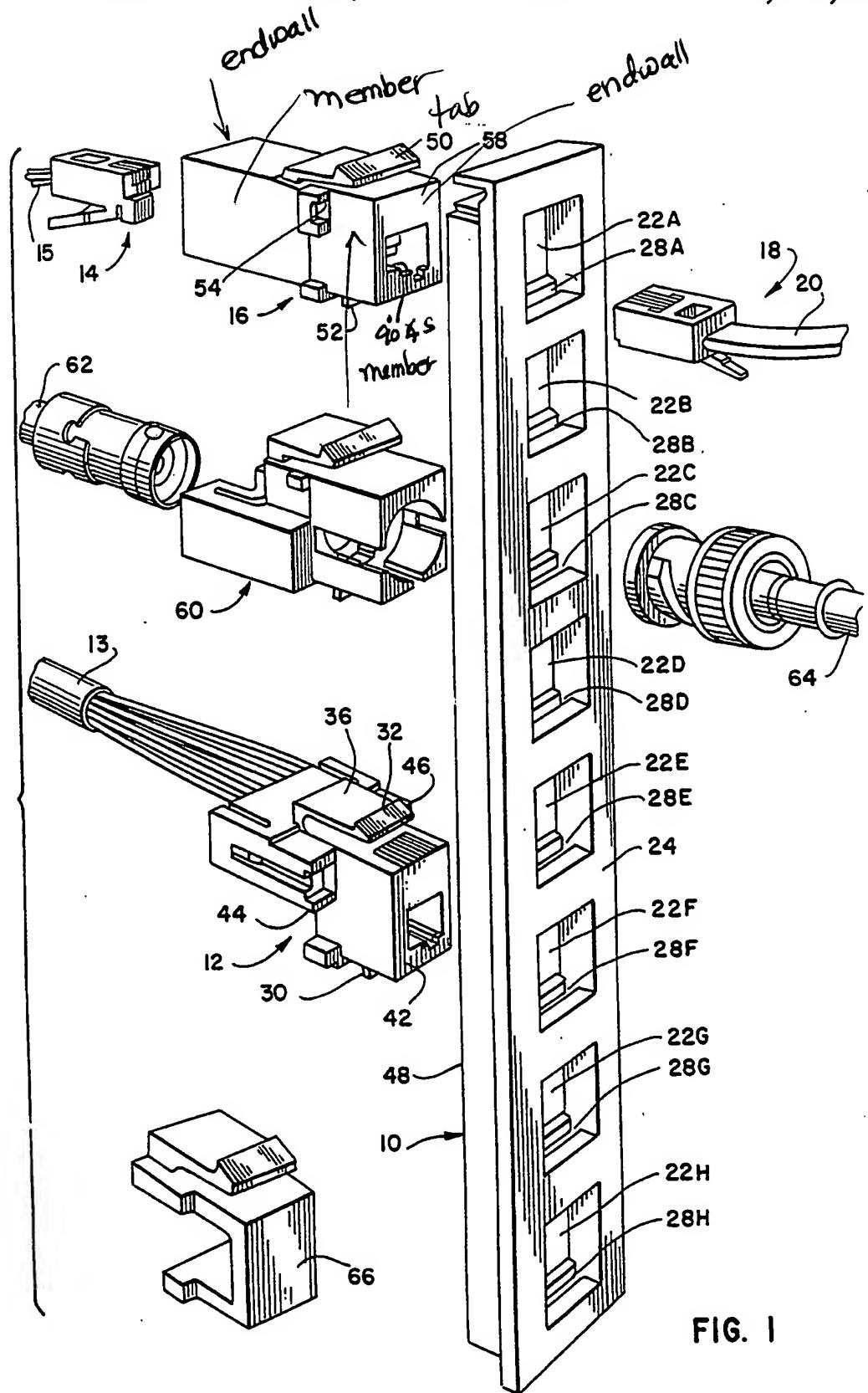


FIG. 1